INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T

25X1

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

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Comments

2. On page 2, line 16, read Arapov and Malyutin for Aropoff and Malutin. 25X1

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STATE	X	ARMY	#X	NAVY	X	AIR	#X	FBI		AEC					

(Note: Washington distribution indicated by "X"; Field distribution by "#".)

INFORMATION REPORT INFORMATION REPORT

January, 1955

PART I

(c) the project dealt with in this Report was originally considered by the Soviets to be of great importance. it collapsed ultimately due to technical difficulties.

(iii) Comment:

It will be obvious from Part II that the project dealt with here did not progress beyond the tentative, planning stage.

PART II - REPORT

For the protection of Soviet coasts it was proposed to lay magneto-striction receivers on the sea bed; the various receivers being connected by cable to a group of central amplifiers. the receivers should in a typical case be laid in a row parallel to the coast and 5-10 Km from the land, with differing frequencies of resonance so that the points of maximum received signal could be determined with greater accuracy. Preferred frequencies were 20, 35 and 50 kc/s.

Proposed distribution of receivers on the sea bed is shown in Annex 'A' to this report. The distance between adjacent receivers was to be 50-100 metres, but preferably more than 100 metres. The most favourable spacing would have to be determined by experiment, as also would the spacing of the individual amplifiers. Receivers were to be mounted on frames housed in water-tight containers and would have three water-tight cable entry points. It was not determined whether individual containers should house one receiver, or a group, but a probable solution would be the housing of several receivers in one container. This point would have to be settled experimentally, and would depend on the directional characteristics of the receivers - which were not given. Another factor would be the depths of water in which the receivers were to be placed. In general, depths greater than 50 metres would present grave difficulties in the matter of installation and servicing, if normal diving gear was to be employed. Within the coastal limits of 5-10 Km it is considered that the water depth would not play a significant role in most cases. It was intended to have in the central amplifiers, filters for the various receiver frequencies. When a particular filter was shown as receiving maximum input, this would indicate that a ship was passing above the associated receiver. The amplifiers were not envisaged

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as employing unusual features, but [redacted] on account of the low input voltages to be expected, and consequent low s/n ratio, it might be advisable to include a pre-amplifier stage at the output of each receiver and build into the receiver. 25X1

[redacted] 25X1

[redacted] the main official objections to putting the scheme into practice were as follows:-

(i) High cost and great expenditure of technical effort in comparison with the probable utility of the project.

(ii) Unreliability of such equipment due to the great variations of acoustic attenuation to be expected in the open sea.

(iii) Impracticability of using the system off steeply shelving coasts.

(iv) Impossibility of detecting sailing boats and engine-powered boats moving at low speeds.

[redacted] 25X1

a surface radar system would be needed in cases (iii) and (iv).

[redacted] 25X1

2. [redacted] the Soviets did not take up the acoustic defection system, for the following reasons:- 25X1

(i) It is likely that the Soviets were not in the position to develop and build adequate magneto-striction receivers in 1950.

(ii) It is unlikely that a Soviet Engineer could be found who would be willing to take the responsibility for building even a trial equipment where the likelihood of complete success was so questionable.

3. The project did not proceed beyond the paper stage: [redacted] the Soviets did not possess a better system of coastal protection at the end of 1950, [redacted] 25X1 25X1

/It was

[redacted] 25X1

[redacted] 25X1

It was apparent [redacted] that the Soviets place great stress on coastal security and were much concerned at its absence. 25X1

[redacted] 25X1

[redacted] the project foundered because too many unknown technical factors were involved. 25X1

PART III - LIST OF PERSONALITIES AND ESTABLISHMENTS

Nil.

PART IV - Appendices - Nil.

Annexes - 'A' - Sketch of proposed distribution of submerged receivers.

[redacted] 25X1

[redacted] 25X1

Annex A

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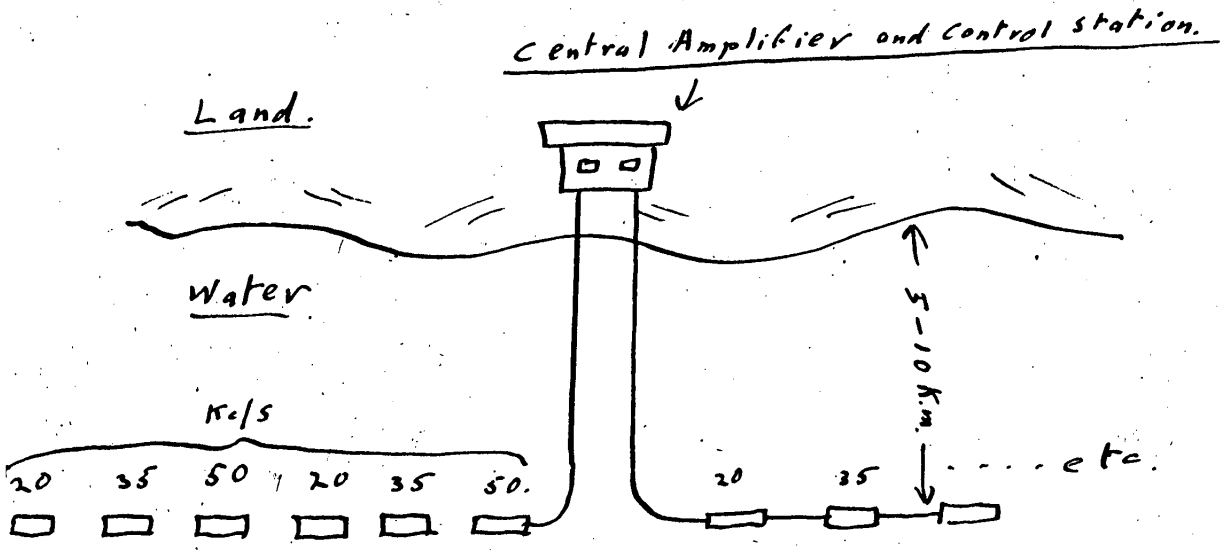

sketch showing proposed distribution of R.V's.

Submerged ship detection apparatus.

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